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ABSTRACT

Creating stronger links between community colleges and industry is likely to be one of the most important tasks in the creation of new industries in Canada and the development of an internationally competitive economy. Existing relations vary from arms-length to working hand in hand, and several projects have been undertaken to encourage closer ties. For example, the Nova Scotia Institute of Technology has teamed up with Pratt & Whitney to provide employees with high automation technology skills; Manitoba's Red River College recently signed a contract with Canadian Bronze to retrain employees on automated lathes and mills; and, in the field of high-technology computer systems, the Kelsey Campus of Saskatchewan Institute of Applied Science and Technology (SIAST) and Camosun College in British Columbia, have strong programs. SIAST has four successful industry-campus programs, including: (1) a 38-week program for apprentice cooks, which involves one day of instruction and six days of work per week, and was developed to replace a 6- to 8-week instructional program that posed problems for employers; (2) the Automotive Service Educational Program, a 5,900-hour apprenticeship program designed in conjunction with General Motors (GM) to prepare automotive technicians for a career in a GM dealership; (3) cooperative education that integrates related on-the-job experience with classroom theory by alternating periods of paid employment and academic study; and (4) a Home Care/Special Care Aide Program, which uses a modified competency-based approach to train workers to provide personal care in special care nursing homes and homemaker services in the home care field. Many more college-business programs exist in Saskatchewan, but additional effort is required to forge new linkages into viable relationships. (AJL)

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COLLEGE AND INSTITUTE AFFILIATIONS AND RELATIONSHIPS WITH BUSINESS AND INDUSTRY:

THE COLLEGE ROLE IN EMPLOYEE DEVELOPMENT

Larry Dinter

Paper presented at the National Conference of the Association of Canadian Community Colleges, May 30 - June 1, 1988, St. John, New Brunswick.

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COLLEGE AND INSTITUTE AFFILIATIONS AND RELATIONSHIPS
WITH BUSINESS AND INDUSTRY

THE COLLEGE ROLE IN EMPLOYEE DEVELOPMENT

(Presented at ACCC Conference St. John, N.B. May, 1988
by L. Dinter, SIAST - Kelsey Campus, Saskatoon, Saskatchewan, Canada)

It's only 12 years before the 21st century, leaving Canadians little time to ponder Sir Wilfrid Laurier's famous last words about the 20th century belonging to us.

Laurier himself, though, must have wondered in 1904 how six million Canadians would conquer a 20th century world then dominated by industrial powers such as the U.S., Britain and Germany.

The 21st century is another matter. Canada and the rest of the Western world will face stiff competition from emerging industrial powers in Asia. Japan and South Korea are already well established, and China is pushing ahead with its industrial renaissance.

In the 21st century, our key resource will no longer be coal, lumber, fish or wheat, but the men and women who graduate from our institutions. Brains will replace brawn.

Dr. Geraldine Kenney-Wallace, chairman of the Science Council of Canada said earlier this year:
"If we are to have an international competitive economy, with all the prosperous benefits and quality of life that Canadians now have and expect to sustain, we must have a revitalization of our mature industries and the creation of new industries that do not rely on our resource base."

Kenney-Wallace believes one of the keys to Canada creating new industries will be to marry the strengths of our colleges and institutions to industry's marketing prowess. Forging closer campus industry ties will likely be one of the most important things we do in the next decade, she says.

Many of the programs in our post-secondary institutions already have some linkage to business and industry. Linkages vary from arms-length to working hand in hand. Even British

universities that have been slow in opening classrooms to industry have increased the linkage 20 fold in the past five years. In order to get on target with the majority of our college-institute programs extra effort will be required to forge the linkage. We have good ideas, but we require follow-through.

Community colleges and technical institutes are supposed to be just the right blend of practical and academic. For industry, the practical use wins out, so the linkage is inevitable. However industry cannot ignore the brain power that exists within our colleges but it is our responsibility to get out to industry and let them know.

A high degree of co-operation is needed in industry between tradesmen, engineers and technicians. But traditionally there's an awful gap between them. It is our responsibility as educators of these workers for industry to narrow the gap, to train them to be flexible and to enable them to work and co-operate with others on the work force.

Numerous projects exist to encourage linkages between college and business/industry. Here in Atlantic Canada the Nova Scotia Institute of Technology has teamed up with Pratt & Whitney to provide employees with high automation technology skills. The project was launched in 1985 after Pratt & Whitney opened an engine manufacturing plant in the Halifax area. Ottawa and the province provided $9.5 million to build the Automated Manufacturing Technology Centre as an addition to the existing institute. The center trains its graduates in the principle of "flexible manufacturing" a more efficient process that gives workers a variety of skills and the ability to do several production jobs.

Manitoba's Red River College has recently signed a contract with Canadian Bronze to retrain employees on automated lathes and mills. Canadian Bronze had difficulty in gaining operators proficient enough for machining parts to railway equipment standards. Similar linkages can and do occur in colleges across

Canada. Many of the colleges and institutes have the equipment already in place along with component instructors. We the college people have to go into industry and make these linkages happen.

Another area where good linkages exist and many colleges are even ahead of industry is in the field of high-technology computer systems. At Kelsey Campus in Saskatoon we have a strong link to industry through our CAD/CAM program. The computer hardware, software and start up costs were installed five years ago at a cost of over $2.0 million supplied by the federal Skills Growth Fund. In partnership with Saskatchewan Research Council Industrial Services Division this CAD/CAM installation services over a dozen design and manufacturing industries throughout the province. Each of these firms has a CAD/CAM terminal tied to Kelsey's main frame computer. The instructors of the program have delivered numerous extension courses to train the people of industry in the use of CAD/CAM. These instructors together with the S.R.C. engineers provide technical backup to industry where these terminals exist.

A similar arrangement exists at Camosun College in Victoria where the college operates a joint program with Unisys Canada Inc. of Vancouver. The firm is a specialist in high technology computer systems. Unisys provided most of the hardware and software, along with $1.0 million for start-up costs. The B.C. government provided another $1.0 million. The aim of both the Camosun and the Kelsey installations is to train students in the use of computer hardware for industrial application. Both programs are popular with training demands exceeding capabilities.

As many universities discovered some years ago the key person to many of the industry/business-campus linkages is the liaison officer. The person(s) in this office has the job of making the linkages happen. The liaison person visits business/industry to inform them of the colleges training capabilities, services and facilities. In addition (s)he acts as the informal placement officer by providing literature on the availabilty of graduates. These deliberate contacts are vital if we are to play the leadership role in forging the campus-industry linkage.

I will now zero in on four programs at Saskatchewan Institute of Applied Science and Technology that are serving us well in making good industry-campus linkages:

1. Apprentice Cooks - Day Release

   Cooking apprentices in Saskatchewan operate on a three level system. Traditionally these apprentices were brought in on a yearly six to eight week block. This format posed many problems for the employer. The main problem being that of finding a replacement for the apprentices when (s)he was on the training program.

   In 1986-87 the advisory board established a curriculum committee that redesigned the course using a DACUM approach. Following curriculum redesign the Chefs Association and the Hospitality Industry Training Council of Saskatchewan (HITCOS) put forth the proposal of a day release (one day/ week) format rather than the eight week block. The idea was quickly accepted because of the convenience for most chefs to have their apprentice at the work place six days per week and gone only one.

   Presently Kelsey has an intake of 12 students per day per level. All three levels are in operation. The whole program is operated by one instructor chef with minimum of assistance from the related subjects area.

   The course is spread over a 38 week period. Students commute from as far as 150 km for the day.

2. Automotive Service Educational Program (A.S.E.P.)

   (A College - General Motors Venture)

   A.S.E.P. is an apprenticeship program designed by G.M. and Centennial College (Toronto) to prepare potential automotive technicians for a career in a G.M. dealership. This program is now being extended to colleges across Canada. The entire

program is 5900 hrs with a student spending 40 weeks at a college.

The course is designed in a format that allows each specialized subject to be taught in the classroom and labs on campus in blocks of eight weeks. The cycle is repeated five times. Each student returns to the sponsoring dealer for the work period.

Responsibilities of participants is as follows:

(a) G.M. Responsibilities

- Provide G.M. training for A.S.E.P. instructors
- Furnish college with vehicles and components
- Provide training materials
- Oversee student selection

(b) Dealership Responsibilities

- Comply with the provincial apprenticeship act
- Provide work experience in accordance with curriculum
- Appoint an in-dealership A.S.E.P. co-ordinator

(c) College Responsibilities

- Maintain a current curriculum
- Teach the program according to the curriculum
- Appoint an A.S.E.P. Co-ordinator
- Inform sponsoring dealers of student progress
- Monitor work experience in dealership

(d) Student Responsibilities

- Obtain a G.M. dealer sponsor
- Provide dealer with productive employment
- Participate in learning activities at scheduled times
- Maintain academic standards

Co-ordinators monitor the work experience.

Several other interesting points to note about this program is that the training is concentrated on only the latest three model years; apprentices are paid a part of the journeyman's wage while on the job; and the student's tuition is funded by provincial and federal governments.

3. Co-op Education

Co-operative education is a training format that integrates related on-the-job experience with classroom theory by alternating periods of paid employment and academic study. This format bridges the gap between the classroom and the workplace.

The co-op education format in Saskatchewan was started at Palliser campus, Moose Jaw in 1985 with Federal funds covering start-up costs. Initially two programs and 61 students participated. Now the co-op education format involves 14 programs and over 400 students with work placements mainly in Western Canada. Over 2000 employer contracts are on file as possible participants in the program.

The co-ordinator is the key person for an effective co-op education program. The co-ordinator's responsibility includes:

- visits to industry to establish need
- arranging initial interview
- monitoring work team
- counselling students in career development
- assisting students in permanent placement

See Appendix A for a sample of Co-op time patterns that are currently in use at the Palliser Campus.

4. Home Care/Special Care Aide

This is a modified competency based program aimed at training workers for providing personal care in special care nursing homes and homemaker services in the home care field. This training program has served over 3000 worker/learners in 200 sites across Saskatchewan. There are no on-campus students.

Instructional material was originally developed at Kelsey Campus in DACUM format by a committee of representatives from the work place. The Special Care Aide course consists of 40 modules that require at least one year of part-time study to complete (most students take up to two years). A certificate is awarded upon completion of the program.

Home Care Aides program is different in that learners have two to four structured classroom activities per month. Work practice occurs between training. A total of one year work practice is required followed by a performance assessment upon completion of the theory. Certificates are also awarded to successful candidates.

The campus monitors and supports the program through telephone discussion, report forms, on site visits and annual refresher workshops for instructors.

This is but a brief overview of four industry-campus linkages. There are many more programs and issues that exist in Saskatchewan and Canada in the area of industry-college linkages. Many good ideas exist, but much more effort is required to forge new linkages into lasting viable relationships.

(Further information on the above programs can be obtained by writing: Larry Dinter, Principal SIAST - Kelsey Campus, P.O. Box 1520, Saskatoon, Sask., Canada, S7K 3R5

APPENDIX A

CO-OP TIME PATTERNS

ACCOUNTING SYSTEMS

	September - December	January - April	May - August
Year 1	Academic Term 1	Academic Term 2	Work Term 1
Year 2	Academic Term 3	Work Term 2	Academic Term 4
Year 3	Work Term 3	← Graduation	

COMPUTER AIDED DRAFTING TECHNOLOGY

	September - December	January - April	May - August
Year 1	Academic Term 1	Academic Term 2	Work Term 1
Year 2	Academic Term 3	Work Term 2	Academic Term 4
Year 3	Work Term 3	Academic Term 5	← Graduation

DATA PROCESSING

	September-December	January-April	May-August
Year 1	Academic Term 1	Academic Term 2	Work Term 1
Year 2	Academic Term 3	Work Term 2	Work Term 3
Year 3	Academic Term 4	← Graduation	

SURVEYING TECHNOLOGY

Year 1				Year 2				Proposed Year 3
Academic 1 September - December	Academic 2 January - March	Survey Field Camp 1 April (4 wks)	Work Term May - August	Academic 3 October - December	Academic 4 January - March	Survey Field Camp 2 April (4 wks)	Work Term May - August	Academic and Field 5 January - May

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